

## Electric power condition of Wako campus in 2014

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The monthly electrical power consumption data for RIKEN Wako campus (Wako) and RIKEN Nishina Center (RNC), and the energy supply by the cogeneration systems (CGSs) are shown in Fig. 1. The hourly average electrical power consumption at RNC for each day in 2014 is shown in Fig. 2. The annual data of electrical power consumption and energy supply in 2014 is listed in Table 1. The total electrical power consumption of Wako in 2014 was 157,943 MWh, which was 10% higher than that in 2013. On the other hand, the total electrical power consumption of RNC in 2014 was 72,724 MWh, which was 30% higher than that in 2013. When the RI Beam Factory (RIBF) experiments using the uranium (<sup>238</sup>U) beam were conducted, the maximum electrical power supply to Wako from Tokyo electric power corporation (TEPCO) reached 22.0 MW with a CGS output of 3.5 MW on April 9, 2014, whereas the maximum electrical power consumption of RNC reached 17.1 MW on October 21, 2014.

A complete overhaul of the gas turbine of the CGS #1 after 8,000 h of operation was carried out in September 2014.

We experienced the following problems during the reporting period. The CGS #1 stopped on May 25, 2014, and again, on October 21, 2014, because of control equipment failure. We had an interruption in power supply on February 15, 2014, due to a snow storm. Earth leakages also occurred 9 times. However, the origin of most of those leakages were unexplained.

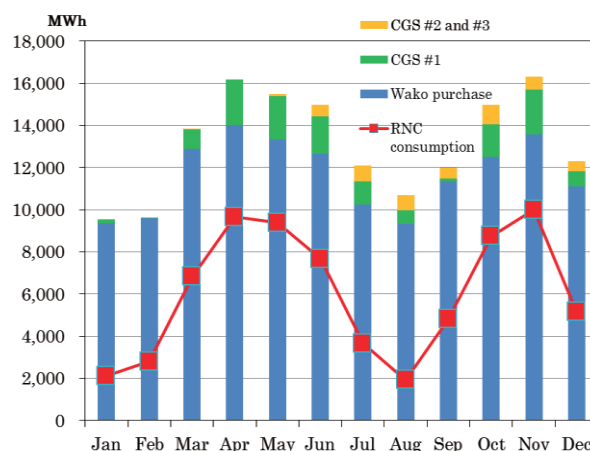


Fig.1 Monthly electrical power consumption and energy supply by CGSs in 2014.

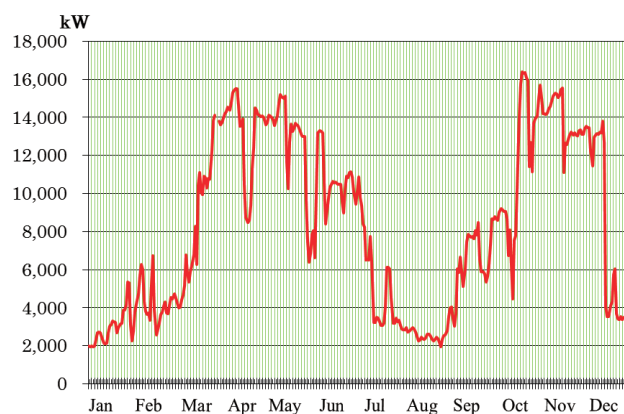


Fig.2 Hourly average electrical power consumption at RNC for each day in 2014.

Table 1 Annual data of electrical power consumption and energy supply in 2014.

	Total	Unit	Note	% of 2013
Wako purchase	139,851	MWh	Total electrical power supply to Wako from TEPCO	111%
Wako consumption	157,943	MWh	Wako electrical power consumption (CGSs + TEPCO)	110%
RNC purchase	59,319	MWh	Total electrical power supply to RNC from TEPCO	137%
CGS #1	13,405	MWh	CGS #1 total electrical power output	107%
RNC consumption	72,724	MWh	RNC total electrical power consumption	130%

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